

Technical Specification

PE 300-VE | PE 400-VE | PE 550-VE | PE 700-VE | PE850-VE

Stationary high pressure compressor for breathing air



PE 400-VE in open version

Made by



General

Medium	Air
Intake pressure	Atmospheric
Filling pressure	PN200 / PN300
Pressure setting, final pressure SIV	225 bar / 330 bar / 350 bar
Pressure setting, pressure sensor	220 bar / 320 bar / 340 bar
Permissible ambient temperature range	+5...+45°C
Permissible altitude	0...1500 m AMSL
Max. permissible tilt	5°
System design	Open / Super Silent
Standard operating voltage	400 V; 50 Hz
Other operating voltage	On request
Compressor oil, standard	Synthetic
Oil change interval	Synthetic: every 2 years / 2,000 h Mineral: annually / 1,000 h
Finish	RAL 1028 (Front) / RAL 9006 (side panels)

Compressor system

	PE 300-VE	PE 400-VE	PE 550-VE	PE 700-VE	PE 850-VE
Charging rate ¹	300 l/min	400 l/min	550 l/min	700 l/min	8500 l/min
Purification system	P 42	P 42	P 42	P 61	P 61
Cooling air flow, min.	2.700 m ³ /h	3.960 m ³ /h	3.960 m ³ /h	5.400 m ³ /h	6.660 m ³ /h
Weight (Super Silent) ²	389 kg	394 kg	468 kg	493 kg	506 kg
Weight (open model) ²	299 kg	304 kg	378 kg	403 kg	416 kg
Dimensions (LxWxH) Super Silent ²	1480 x 830 x 1515 mm	1480 x 830 x 1515 mm	1480 x 830 x 1515 mm	1480 x 830 x 1515 mm	1600 x 830 x 1515 mm
Dimensions (LxWxH) offen ²	1140 x 830 x 1515 mm	1140 x 830 x 1515 mm	1140 x 830 x 1515 mm	1140 x 830 x 1515 mm	1260 x 830 x 1515 mm

1 Measured during cylinder filling from 0-200 bar tolerance +/- 5% at + 20°C ambient temperature.

2 Standard model. Weight and dimensions may vary depending on accessories.

•Drive system: e-motor

	PE 300-VE	PE 400-VE / PE 550-VE	PE 700-VE	PE 8850-VE
Power	7,5 kW	11 kW	15 kW	18,5 kW
Model	132	160	160	160
Typ of construction	B3	B3	B3	B3
Type	Three-phase Squirrel-Cage-Motor			
Operating voltage / frequency ¹	400 V, 50 Hz ¹	400 V, 50 Hz ¹	400 V, 50 Hz ¹	400 V, 50 Hz ¹
Rated current	ca. 14,2 A (bei 400 V/50Hz)	ca. 20,8 A (bei 400 V/50Hz)	ca. 28 A (bei 400 V/50Hz)	ca. 34,2 A (bei 400 V/50Hz)
Speed	ca. 3.000 U/min	ca. 3.000 U/min	ca. 3.000 U/min	ca. 3.000 U/min
Protection class	IP55 (TEFC)	IP55 (TEFC)	IP55 (TEFC)	IP55 (TEFC)

1 Other voltages and frequencies available on request against additional price.

STANDARD SCOPE OF SUPPLY

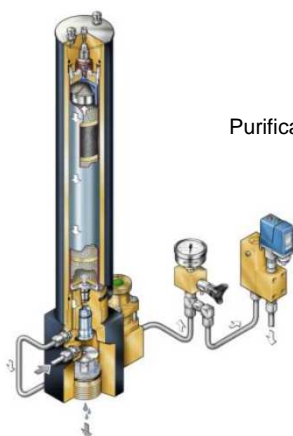
- **Compressor block**

- Oil pump for forced-feed lubrication
- Micronic intake filter: 10 µm
- Intermediate coolers, air cooled, stainless steel
- Aftercooler, air cooled, outlet temperature approx. 10-15 °C above cooling air temperature
- Intermediate separators after the second stage
- Final separator for oil/water separation after final stage
- Sealed safety valves after each stage
- TÜV approved final pressure safety valve
- Pressure maintaining and check valve after the final stage

Compressor block	IK120	IK12.14	IK150	IK180
Charging rate ¹	300 l/min	400 l/min	550 l/min	400 l/min & 250 l/min
Speed	1,800 1/min	1,800 1/min	1,230 1/min	1,400 U/min (700 l/min) or 1,800 1/min (850 l/min)
Number of stages	3	4	4	4
Number of cylinder	3	3	4	4
Cylinder bore 1st stage	88 mm	105 mm	120 mm	130 mm
Cylinder bore 2nd stage	36 mm	88 mm	60 mm	60 mm
Cylinder bore 3rd stage	14 mm	28 mm	32 mm	32 mm
Cylinder bore 4rd stage	-	12 mm	14 mm	14 mm
Stroke	40 mm	40 mm	50 mm	50 mm
Direction of rotation (from flywheel side)	Left	Left	Left	Left
Drive type	V-belt	V-belt	V-belt	V-belt
Intermediate pressure 1st stage	8 bar	4,2 bar	4,5 bar	4,5 bar
Intermediate pressure 2nd stage	50bar	18bar	17 bar	20 bar
Intermediate pressure 3rd stage	-	82 bar	73 bar	85 bar
Amount of oil	2.8 l	2.8 l	6,0 l	6,0 l
Oil pressure	4.5 bar ± 1.5 bar	4.5 bar ± 1.5 bar	4.5 bar ± 1.5 bar	4.5 bar ± 1.5 bar
Intake pressure	1.0 bar _a	1.0 bar _a	1.0 bar _a	1.0 bar _a

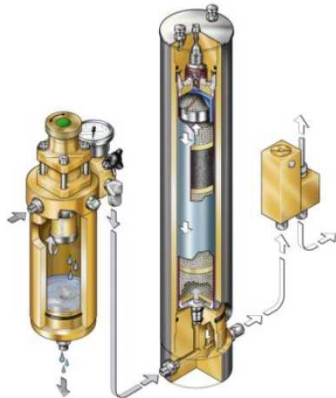
¹ Gemessen bei Flaschenfüllung von 0-200 bar Toleranz +/- 5% bei +20°C Umgebungstemperatur

- **P 42 - Filter with integrated final oil and water separator:** Integrated in PE 300-VE, PE 400-VE and PE 550-VE



STANDARD SCOPE OF SUPPLY

- **P 61 - Filter with separate final oil and water separator:** Integrated in PE 700-VE and PE 850-VE



Purification system P 61 (picture similar)

Purification System	P42	P61
Operating pressure (Standard)	PN200/PN300	PN200/PN300
Operating pressure max (PS)	350 bar	350 bar
Pressure dew point	< -20 °C, equivalent to 3 mg/m ³ at 300 bar	< -20 °C, equivalent to 3 mg/m ³ at 300 bar
Piping connections	G 3/8" (condensate drain G 1/4 ")	G 3/8" (condensate drain G 1/4 ")
Filter housing volume	2,25 l	2,85 l
DGRL 2014/68/EU	Vessel category II	Vessel category II
Air purification capacity (at ambient temperature 20°C and 300 bar) ¹	1,595 m ³	2,475 m ³

1 When using a BAUER filter cartridge without Hopcalite. When using a cartridge with CO-removal the air purification capacity is reduced.

- **B-CONTROL MICRO electronic control unit**



B-CONTROL MICRO Display

Features:

- Displays current operating pressure, operating hours and operation type
- Displays remaining filling time for breathing air cylinders
- Semiautomatic and fully automatic operation options
- Displays service and maintenance intervals and maintenance information
- Cycle counter and operating hours counter
- Oil pressure monitoring
- B-SECURUS monitoring (via CAN bus)
- Temperature monitoring
- Motor overcurrent (indirect by PTC)

Schnittstellen

- CAN bus for internal use
- Remote Start/Stop (dry contact)
- External emergency off switch
- Centralised alarm (dry contact)
- External connection options for: B-SECURUS, SECCANT, B-KOOL , external display, external operating field, gas measurement systems, 40 litre condensate collector

OPTIONS

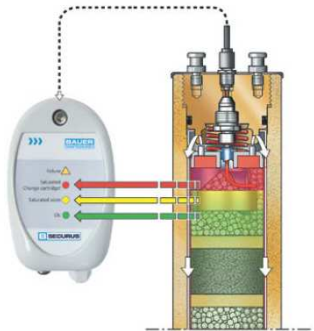
- **SUPER SILENT housing**



PE 550 VE with SUPER SILENT housing

- Reduction of the sound pressure level to approx. ± 2 dB (A) (ISO 3744) 7.5 kW to 15 kW

- **B-SECURUS filter cartridge monitoring system**



B-SECURUS Filter Cartridge Monitoring System

- **Filling devices with hose connections**



PE-VE with filling hoses

Filling panel with hose connections, with optional:

- 4 filling connection PN200
- 4 filling connection PN300
- 2 filling connection PN200 and 2 filling connection PN300

Filling devices with hose connections

Filling device	Aluminium filling device
Valve type	Lever filling valves per pressure range with integrated air bleeder, with German cylinder connector G 5/8" DIN 477
Manometer	1 final pressure manometer for each pressure range
Filling hose	4 Unimam high pressure filling hoses per pressure range, length 1 m
International cylinder connector	International cylinder connectors for 200 bar (not permitted in Germany!)
For 2 pressure ranges	1 pressure reducer, 1 additional safety valve

OPTIONS

External filling panels

Filling strip with direct connections, optionally with

- 4 filling connections PN200
- 4 filling connections PN300
- 2 filling connections PN200 and 2 filling connections PN300

Filling device with direct connections

Filling device	Aluminium filling device
Valve type	4 direct lever filling valves per pressure range with integrated air bleeder, with German cylinder connector G 5/8" DIN 477
Manometer	1 final pressure manometer for each pressure range
For 2 pressure ranges	1 pressure reducer, 1 additional safety valve

External filling panels

- Direct filling connection or hose connection
- One or two pressure ranges PN200 and/or PN300
- 4, 6 or 10 filling connections

Condensate collection system 40 l

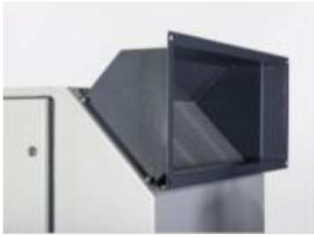


40 l Condensate collection system

- 60-litre PVC tank, capacity approx. 40 litres
- Exhaust air is filtered by a soundproofed active charcoal filter
- Filling level display with visual warning when the collector requires emptying (optionally with signal for B-CONTROL)

OPTIONS

- **Exhaust air duct**



Standard exhaust air duct

Note: The exhaust air duct can only be mounted on the Super Silent housing!

- **Exhaust air duct with ventilating shutters**



Exhaust air duct with ventilating shutters mounted on a VERTICUS 5

- Exhaust air duct with canvas flange for exhaust channel (to be supplied on site)
- Louvers for circulating air control
- Actuating drive for louvers
- Electronic high - low action control system incl. temperature sensor (mounted in compressor air intake duct; set value $+18 \pm 4^{\circ}\text{C}$)
- Mounted on compressor housing incl. electric installation

Important: If the pressure drop is exceeded by $5 \text{ mmWS} = 0,5 \text{ mbar}$ (e.g. when the exhaust air duct is very long), an additional fan has to be provided on site.

The system can be mounted on the top or rear of the compressor (please state requirements when ordering).

OPTIONEN

High-pressure storage systems



B50 / 420 bar



B100 / 360 bar

Modular high-pressure storage system for storage of air / gases, extendable. .

Scope of delivery:

- B 80 S / B 160 S – Standard modul
- B 80 A / B 160 A – Extension module
- B 80 B, without console
- B 50 S / B 100 S – Standard modul
- B 50 A / B 100 A – Extension module

FINISH:

Console RAL 7024 (grey) storage container RAL9010 (white for B80/160) or RAL 7024 (grey for B50/100).

	330 bar		360 bar		420 bar	
	B 80	B 160	B 50	B 100	B 50	B 100
Number of storage containers	1	2	1	2	1	2
Storage medium	Air, nitrogen, noble gases					
Geom. volume per storage container	80 litres		50 litres		50 litres	
Geom. storage volume, total	80 litres	160 litres	50 litres	100 litres	50 litres	100 litres
Max. safety valve setting	330 bar		360 bar		420 bar	
Max. storage pressure	320 bar		350 bar		400 bar	
Weight	145 kg		92 kg + console	184 kg + console	80 kg + console	160 kg + console
Design as per	DGLR 97/23-EG und AD2000 ¹					

¹ Other certificates / approvals on request.

Automatic selector unit



Automatic selector unit

The automatic selector unit enables pressurised air cylinders (bottles) to be filled rapidly and in parallel from a buffer (intermediate storage system and by the compressor).

OPTIONEN

▪ B-KOOL refrigeration dryer



B-KOOL standalone

Types:

- B-KOOL 680i, integrated (mounted on a VERTICUS 5 with Super Silent housing)
- B-KOOL 680s standalone positioned next to the compressor

Model	B-KOOL 680i and B-KOOL 680s
Medium	Pressurised air
Ambient temperature	+5°C to +45°C
Refrigerant	R 134 a
Intake temperature of pressurised air	max. 60°C
Max. operating pressure, pressurised air	350 bar / 500 bar
Min. operating pressure, pressurised air	100 bar
Permissible compressor charging rate	200 – 700 l/min (10 l cylinder filling from 0-200 bar 200 – 650 l/min (as per ISO 1217)
Power supply	100 – 127 VAX 50 Hz or 200 – 240 VAC 50/60 Hz
Power consumption	max. 550 W at 50 Hz, 610 W bei 60 Hz

Model	B-KOOL 680i	B-KOOL 680s
Dimensions (LxWxH)	760 x 346 x 535 mm	386 x 695 x 565 mm
Weight approx.	50 kg	48 kg

ASSEMBLY KITS: :

Compressor	Purification system	B-KOOL 680i	B-KOOL 680s
PE-VE F03	P 42 ¹	129014	129015
PE-VE F03	P 61	129016	129018

¹ B-KOOL + P 42: cannot be combined: instead of P 42, a P 41 purification system will be supplied in case t of common compressor order with B-KOOL.

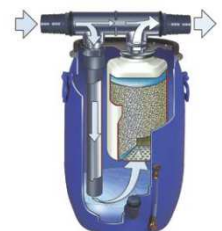
The assembly kit for mounting on a compressor must be ordered separately and is essential. .

▪ AERO-GUARD CO2 absorber

Efficient removal of CO2 from breathing air: A sophisticated bypass system feeds the compressor intake air through the AERO-GUARD. Only around two-thirds of the air passes through the filter cartridge that absorbs the CO2 from the air. This process reduces the CO2 content to one-third of that of the intake air. .

SCOPE OF DELIVERY, AERO-GUARD:

- Intake pipe (order connections separately)
- Water barrel, 60 l (for AERO-GUARD DUO - 2 × water barrels each 60 l)
- Filter cartridge; filling: 9 kg special carbon dioxide absorber



AERO-GUARD

OPTIONS

Type / Size	Suitable for charging rate 1 l/min	Dimensions (WxDxH) cm	Operating weight 2
Aero-Guard-S	100 – 150	50 x 46 x 72	26 kg
Aero-Guard-M	160 – 230	50 x 46 x 72	26 kg
Aero-Guard-L	240 – 320	50 x 46 x 72	26 kg
Aero-Guard-XL	330 – 450	50 x 46 x 72	26 kg
Aero-Guard-XXL	460 – 700	50 x 46 x 72	26 kg
Aero-Guard Duo 1000	650 – 1000	85 x 62,5 x 87	54 kg

1 Charging rate of the connected compressor measured with cylinder filling from 0 – 200 bar ± 5%

2 Includes filter cartridge and 10-litre water ballast

Model	AERO-Guard S-XXL	AERO-GUARD DUO 1000
Medium	Pressurised air	Pressurised air
Ambient temperature	+5 to +45°C	+5 to +45°C
Intake air temperatur	+5 to +45°C	+5 to +45°C
Rel. humidity of intake air	10 to 100 %	10 to 100 %
CO2 intake air condition	max. 1000 ppm _v CO ₂	max. 1000 ppm _v CO ₂
CO2 output air concentration	1/3 of intake concentration = max. 330 ppmv CO2 at 1,000 ppmv intake concentration CO2	
Permissible compressor charging rate	100 – 700 l/min	650 – 1.000 l/min
<i>Service life</i>	Min. 44 operating hours (at 700 l/min output and intake concentration of 1000 ppm CO2). Cartridge must be changed after max. one year even if the maximum service life is not reached.	Min. 60 operating hours (at 1000 l/min output and intake concentration of 1000 ppm CO2). Cartridge must be changed after max. one year even if the maximum service life is not reached.
Maximum daily operating time:	5 h	5h
Cartridge filling	Approx. 9 kg special carbon dioxide absorber per cartridge	
Pressure lost	approx. 20 mbar	approx 20 mbar
Max. permissible tilt	15°	15°
Permissible altitude	0 – 2000 m. ü. NN	0 – 2000 m. ü. NN
Finish	Container blue, cover black/silver, PVC pipes grey RAL7011	

Corporate Headquarters:
Drägerwerk AG & Co. KGaA
Moislinger Allee 53-55
23558 Lübeck, Germany

www.draeger.com

Manufacturer
BAUER KOMPRESSOREN GmbH
Stäblistr. 8
81477 München, Germany